PaperTape (Traning Period: PBI- Mid-Term Report)

by

Prashant Chandra

(Roll Number: 2019112)

Supervisor (s):

Internal Supervisor: Dr. Anil Kumar (Associate Professor, IIITDMJ)

External Supervisor: Mr. Nikhil Shukla

Department of Electronics and Communication Engineering

Indian Institute of Information Technology, Design and Manufacturing Jabalpur

Period of Work: 19th December 2022 – 23rd March2023

Introduction

This report summarizes my experience as an intern at PaperTape, working on the Hiccup app, an AI-driven solution that encourages users to make healthier food choices and save money by controlling their spending habits. The report covers my progress over the last few weeks, including my long-term project and contributions to the app.

Present Investigation

After completing my initial tasks, which included minor UI/UX changes, learning about the app's architecture and pre-trained deep learning models, and classifying images into categories, I was given a long-term project. My primary task was to develop a feature for the app that would allow users to receive personalized dish recommendations based on their dietary preferences and restrictions. To accomplish this, I first had to create a dataset of recipes and associated nutritional information. I researched different sources for this data and ultimately used publicly available datasets from reputable sources such as the USDA. Next, I will use transfer learning to fine-tune a pre-trained deep-learning model for recipe classification into categories such as vegan, vegetarian, gluten-free, etc.

Results and Discussions

Developing the recipe recommendation feature will be a significant achievement. It will add a new dimension to the app that will benefit the user experience and set PaperTape apart from other health and food apps. Creating a database for the app gave me a strong foundational understanding of the data that we would be generating and using in the future. The to-do app helped me to get acquainted with certain platforms. Classifying images into categories was a cutting-edge research area in 2015, and it is readily accessible for development now. Although seemingly simple, such tasks require large neural networks trained on a large dataset of images which need to be further trained on your specific use case.

Conclusions

Overall, my experience as an intern at PaperTape has been a valuable learning opportunity, and I am proud of the contributions I have made to the development of the Hiccup app. Through my long-term project, I will be able to apply my knowledge of

deep learning and Python programming to develop a feature that enhances the app's functionality and user experience. I look forward to continuing to work on this project and further developing my skills.